

20011109.ba v03\_n250.bam.20011109

>From ???@??? Fri Nov 9 08:44:27 2001 -0600  
Message-Id: <200111091444.fA9EiHfg010050@sco.theporch.com>  
Date: Fri, 9 Nov 2001 08:43:30 CST  
From: Old Tube Radios <boatanchors@theporch.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: BOATANCHORS digest 3250

BOATANCHORS Digest 3250

Topics covered in this issue include:

- 1) What I Thought I Knew About Contactors  
by "Rhett T. George" <rtg@ee.duke.edu>
- 2) What th'?'  
by "Rhett T. George" <rtg@ee.duke.edu>
- 3) Re: What th'?'  
by Jack Harper <jharper@bsi2000.com>
- 4) FB-7 coil handles  
by brian.k.harris@philips.com
- 5) MFP Redux  
by "Jim Berry" <basalop@gte.net>
- 6) WTB internal ac PS for 51S-1  
by "Ed White" <wa3bzt@wserv.com>
- 7) Ham Radio Binders  
by "Ed White" <wa3bzt@wserv.com>
- 8) QSY de Front Seat  
by "Richard W. Solomon" <w1kszt@tiac.net>
- 9) Re: [MilSurplus] Re: [ARC5] here is my want list!!!! I am always looking for professional journals, conference proceedings, and upper-level and graduate-level books in EE and related areas of applied physics. Early childrens books on these subject wante  
by "ed sharpe" <esharpe@uswest.net>
- 10) Re: What I Thought I Knew About Contactors  
by Mike Feher <n4fs@monmouth.com>
- 11) Re: Hickok tube tester sockets question  
by "Brian Goldsmith" <brian.goldsmith@echo1.com.au>
- 12) Re: Hickok tube tester sockets question  
by Avery Comarow <acomarow@usnews.com>
- 13) T-368-C FOR SALE  
by "Tom Smith" <tsmith@hal-pc.org>
- 14) Re: Hickok tube tester sockets question  
by Arden Allen <gumbear@pacbell.net>
- 15) Re: Heathkit GR-54 Voltage Listing  
by James Hanlon <knjhanlon@qwest.net>
- 16) Re: Heathkit GR-54 Voltage Listing  
by Henry van Cleef <vancleef@eskimo.com>

- 17) Attention "Super Wasp" Fans  
by W5USM@aol.com
- 18) FS: HP-401C VTVM  
by Michael Crestohl <mc@sover.net>
- 19) HTML Defeat Test~DISREGARD  
by W5USM@aol.com

-----  
From: "Rhett T. George" <rtg@ee.duke.edu>  
Date: Wed, 7 Nov 2001 11:43:56 -0500 (EST)  
Message-Id: <200111071643.fA7GhuH20257@gifthorse3.ee.duke.edu>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: What I Thought I Knew About Contactors

- Greetings -

Many thanks to Lee Hart for a most lucid presentation of contactor opening and closing. Here are two more points to ponder over your favorite brew this afternoon.

Energy is stored in the magnetic circuit as magnetism (magnetic flux) which is maintained by the flow of current. If the current was interrupted and had to change from non-zero to zero in an instant, there would be an instantaneous change in energy. The first time derivative of energy is power. Begging leave from you mathematicians to do this, the first derivative of an instantaneous change is an impulse of finite area and infinite height. Practically, this means there is a near-infinite impulse of power which lasts an infinitesimal length of time. But long enough to have effect. Since the current is known, the voltage must approach infinity. Should you still have an ICE of the spark plug variety, this principle is used in firing the plug.

Stil thinking on this matter, Lee and others have pointed out that keeping the contactor closed takes less current than getting it to close. Use a smart circuit to reduce the contactor coil current after 15 milliseconds or so. \* Now \* there is less energy to be gotten rid of when opening the contactor.

The second point would be more theoretical except it has the secret of why Switched-Reluctance Motors operate. That is, the voltage across an inductor is given as follows.

$$v = d(Li)/dt$$

The voltage depends not only on the change of current but the change of inductance. In Lee's fine description of turning off the coil current in a contactor, the voltage obtained is due not only to the diminishing current but also to the subsequent movement of the solenoid armature until the flux

lines drop to zero. This figures, since mechanical work was done on the solenoid armature electrically when the contactor closed, that mechanical energy has to be given back electrically when the contactor opens.

This is enough obfuscation. Hope it is useful.

Rhett George

-----  
From: "Rhett T. George" <rtg@ee.duke.edu>  
Date: Wed, 7 Nov 2001 12:23:18 -0500 (EST)  
Message-Id: <200111071723.fA7HNIU20310@gifthorse3.ee.duke.edu>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: What th'?

- Greetings -

My apologies, good BA folk. My electric vehicle message hopped on my wrongly chosen alias and rode merrily off to all of you.

73 Rhett - KE4HIH

-----  
Message-Id: <4.1.20011107104553.03738a70@mail.bsi2000.com>  
Date: Wed, 07 Nov 2001 10:46:26 -0700  
To: Old Tube Radios <boatanchors@theporch.com>  
From: Jack Harper <jharper@bsi2000.com>  
Subject: Re: What th'?  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

At 12:23 11/7/2001 -0500, Rhett wrote:  
<snip>

>My apologies, good BA folk. My electric vehicle message hopped on  
>my wrongly chosen alias and rode merrily off to all of you.

It was actually quite interesting...

Regards to the List

Jack, W0YJ (Friend to all things Hammarlund)

/\*  
/\* Jack Harper -- www.frobenius.com (Personal) \*/  
/\* -- www.bsi2000.com (Business) \*/

/\*

\*/

-----  
From: brian.k.harris@philips.com  
Subject: FB-7 coil handles  
To: Old Tube Radios <boatanchors@theporch.com>  
Date: Wed, 7 Nov 2001 12:41:04 -0800  
Message-ID: <OFF7C80491.070B5AAC-ON88256AFD.00713D90@diamond.philips.com>  
MIME-Version: 1.0  
Content-type: text/plain; charset=us-ascii

I seem to remember (way-back-when) that someone was making pull handles for FB-7 coils (and the like). I need several of these (like 10 or more) if they are still available.

Brian K. Harris, Senior Field Application Engineer, WA5UEK

Philips Semiconductors  
2140 Lake Park Blvd. Suite 200  
Richardson, Texas 75080 USA  
Direct 972-705-2484  
Fax 972-480-9617  
Cell 214-763-5977

EMAIL brian.k.harris@philips.com

-----  
From: "Jim Berry" <basalop@gte.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: MFP Redux  
Date: Wed, 7 Nov 2001 13:15:27 -0800  
Message-ID: <000e01c167d1\$52966ba0\$2c030f3f@default>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

I asked only a few days ago about making MFP look alike. I got many suggestions, ideas, and info. One of them was mixing food coloring to the clear water based stuff I already had. It was mix, match, and a lot of screwing around.

I went to my local hobby shop, with a panel from my project. Told them my problem, and they showed me some paint they had. It is Tamiya Color Acrylic Paint X-24 Clear Yellow. It came

in a little 1/3 fl.oz bottle for \$2.25. Not much of a bargain,  
not a lot of paint, and you should be 14+ to use it.

It is a perfect match!

73 Jim K7SLI

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Outgoing mail is certified Virus Free.  
Checked by AVG anti-virus system (<http://www.grisoft.com>).  
Version: 6.0.292 / Virus Database: 157 - Release Date: 10/26/2001

-----  
Message-ID: <002c01c167dd\$7879dc10\$5bbc69ce@EWHITE>  
From: "Ed White" <wa3bzt@wserv.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: WTB internal ac PS for 51S-1  
Date: Wed, 7 Nov 2001 17:42:23 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

I need a Power Supply for 51S-1A/AF 28 vdc receiver. I would like to change  
the 28 vdc to 115 vac which looks like a change of the interior power supply  
Any help out there ant old parts or chassis out there?

Ed  
WA3BZT

-----  
Message-ID: <003501c167dd\$9380f520\$5bbc69ce@EWHITE>  
From: "Ed White" <wa3bzt@wserv.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Ham Radio Binders  
Date: Wed, 7 Nov 2001 17:43:09 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Hi Gang:  
I am looking for two brown Ham Radio Binders I need them to bind the last  
two years 1989 and 1990. This will bind all my HR  
Ed White  
WA3BZT

-----  
From: "Richard W. Solomon" <w1ksz@tiac.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: QSY de Front Seat  
Date: Wed, 7 Nov 2001 18:14:50 -0500  
Message-ID: <LOBBJFMMJJCIMDIAGBJLAEJHGHA.w1ksz@tiac.net>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

If anyone tried to reach me on this and got a "bounced" mail message, please try again. My ISP croaked on Friday and mail has been spotty and sometimes non-existent.

Tnx, Dick, W1KSZ

-----  
Date: Wed, 7 Nov 2001 19:23:05 -0700  
Message-ID: <00b901c167fc\$4c977b60\$0300000a@frontdesk1>  
From: "ed sharpe" <esharpe@uswest.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Cc: qcwa@qth.net, "Old Tube Radios" <boatanchors@theporch.com>, milsurplus@qth.net, boatanchors@qth.net, BOATANCHORS@LISTSERV.TEMPE.GOV, arc5@qth.net  
Subject: Re: [MilSurplus] Re: [ARC5] here is my want list!!!! I am always looking for professional journals, conference proceedings, and upper-level and graduate-level books in EE and related areas of applied physics. Early childrens books on these subject wante  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Greetings from the Museum...

Gee, now I feel as though I am forced into a position to defend myself....

If you will analyze this list, the majority of topics that are on it are used to either directly manufacture or indirectly manufacture the radio products that we all enjoy,

The reference to early nursing books was a wild card but thought I would include it as a friend of mine is the director of the American museum of nursing (also here in Glendale Arizona) and thought I might help garner some material for her.

Back to the manufacture of electronic marvels, using the soldering iron to assemble them is towards the end of the process.... we carry things back just about where you dig the raw materials from the earth to start the process! Interesting to know where mica comes from for capacitors, galena comes from to make crystal detectors, the growing of crystals and the doping of them to make semiconductors.... etc etc..

It puzzles me though why this person would choose to complain by also blanketing to all the lists? What is the agenda? What is the motivation?

Please Todd, I consider your argument closed, and feel free to utilize the delete key if you do not want to read our messages.

We are on a quest, and it is an important one. This building is a resource to all of us from the person that want to see some radio gear from yesteryear to the person wondering how crystals are grown to manufacture transistors.

We feel that through the resources that we have availed folks to, either in person or electronically ( ah my aching scanner!), we have helped out....but there is still much to do, more information and publications to acquire..... just wait until we get the server online with the two 60 gig drives on it!!

anyway hope ya get my meaning, catch my drift... it is all part of the 'big picture'

Thanks to all that expressed support both publicly and into my email box. There is always more work to be done !

thanks ed sharpe archivist for smecc

----- Original Message -----

From: "Todd Bigelow - PS" <tbigelow@pop.state.vt.us>

To: "ed sharpe" <esharpe@uswest.net>

Cc: <qcwa@qth.net>; "Old Tube Radios" <boatanchors@theporch.com>;

<milsurplus@qth.net>; <boatanchors@qth.net>;

<BOATANCHORS@LISTSERV.TEMPE.GOV>; <arc5@qth.net>

Sent: Wednesday, November 07, 2001 2:58 PM

Subject: [MilSurplus] Re: [ARC5] here is my want list!!!! I am always looking for professional journals, conference proceedings, and upper-level and graduate-level books in EE and related areas of applied physics. Early childrens books on these subject wanted also! I look for older stuff

> Ed -

>

> I appreciate that you are seeking a lot of items for whatever reason. As a

list  
> subscriber, I'd appreciate very much if you didn't spam the lists with it,  
> however. Much of what you have listed is not relevant to all of the lists.  
>  
> Please - try to be considerate of others and not just think of your wants  
when  
> you have an idea like this? It's very inconsiderate.  
>  
> Thank you in advance -  
>  
> de Todd, KA1KAQ  
>  
> ed sharpe wrote:  
>  
> > here is our want list!!!! We are always looking for  
>  
> <snip>  
>  
>  
>  
> ---  
> Submissions milsurplus@qth.net  
>

-----  
Date: Wed, 07 Nov 2001 23:42:39 -0500  
From: Mike Feher <n4fs@monmouth.com>  
Subject: Re: What I Thought I Knew About Contactors  
To: Old Tube Radios <boatanchors@theporch.com>  
Message-id: <01a901c1680f\$ccd69e60\$20c5be18@n4fs>  
MIME-version: 1.0  
Content-type: text/plain; charset=iso-8859-1  
Content-transfer-encoding: 7BIT

Rhett -

Glad you posted this to the whole group as it did make me realize something I have not really thought of. Of course  $V=L \cdot di/dt$  is well known, the fact that L actually changes is never considered. Kind of like in a swinging choke. Doubt if the effect on the back EMF is substantial, none the less it exist. Thanks for the eye opener. 73 - Mike

Mike B. Feher, N4FS  
89 Arnold Blvd.  
Howell NJ, 07731  
(732) 901-9193



----- Original Message -----

From: "Rhett T. George" <rtg@ee.duke.edu>  
To: "Old Tube Radios" <boatanchors@theporch.com>  
Sent: Wednesday, November 07, 2001 11:43 AM  
Subject: What I Thought I Knew About Contactors

> - Greetings -

>

> Many thanks to Lee Hart for a most lucid presentation of contactor opening  
> and closing. Here are two more points to ponder over your favorite brew  
> this afternoon.

>

> Energy is stored in the magnetic circuit as magnetism (magnetic flux)  
which

> is maintained by the flow of current. If the current was interrupted and  
> had to change from non-zero to zero in an instant, there would be an instan-

> taneous change in energy. The first time derivative of energy is power.  
> Begging leave from you mathematicians to do this, the first derivative of  
> an instantaneous change is an impulse of finite area and infinite height.  
> Practically, this means there is a near-infinite impulse of power which  
> lasts an infinitesimal length of time. But long enough to have effect.  
> Since the current is known, the voltage must approach infinity. Should  
> you still have an ICE of the spark plug variety, this principle is used  
> in firing the plug.

>

> Still thinking on this matter, Lee and others have pointed out that keeping  
> the contactor closed takes less current than getting it to close. Use a  
> smart circuit to reduce the contactor coil current after 15 milliseconds  
> or so. \* Now \* there is less energy to be gotten rid of when opening the  
> contactor.

>

> The second point would be more theoretical except it has the secret of  
> why Switched-Reluctance Motors operate. That is, the voltage across an  
> inductor is given as follows.

>

>  $v = d(Li)/dt$

>

> The voltage depends not only on the change of current but the change of  
> inductance. In Lee's fine description of turning off the coil current in  
> a contactor, the voltage obtained is due not only to the diminishing  
current

> but also to the subsequent movement of the solenoid armature until the  
flux

> lines drop to zero. This figures, since mechanical work was done on the

> solenoid armature electrically when the contactor closed, that mechanical  
> energy has to be given back electrically when the contactor opens.  
>  
> This is enough obfuscation. Hope it is useful.  
>  
> Rhett George  
>  
>

-----  
Message-ID: <001b01c16852\$b7010970\$e7168490@workstation2>  
From: "Brian Goldsmith" <brian.goldsmith@echo1.com.au>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: Hickok tube tester sockets question  
Date: Thu, 8 Nov 2001 23:41:40 +1100  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Eric wrote:-  
session of ten or more tubes.

Pet peeve of the 752A: the right half of the roll chart is "upside down"! The EICO chart arranges the order so that once you've gone DOWN the left side, the numbers continue UP the right. Wonder what possessed Hickok to do it "wrong"?!

Greetings to all.I'm wondering if Hickok followed what Heath did with the TC1 and TC2 (1950 to 1959).Don't know about the TC3 (1959 to 1962).Heath certainly got it right at the IT21(1961 to1967).  
                                Brian Goldsmith.

-----  
Message-Id: <4.2.2.20011108095649.00aa3570@ntpop.usnews.com>  
Date: Thu, 08 Nov 2001 10:03:14 -0500  
To: Old Tube Radios <boatanchors@theporch.com>  
From: Avery Comarow <acomarow@usnews.com>  
Subject: Re: Hickok tube tester sockets question  
Cc: boatanchors@theporch.com  
Mime-Version: 1.0  
Content-Type: multipart/alternative;  
        boundary="====\_64726561==\_ALT"

--====\_64726561==\_ALT  
Content-Type: text/plain; charset="us-ascii"; format=flowed

Definitely the easiest fix offered so far!

I'm slowly coming to the conclusion that if the socket pin is gripping the tube pin so tightly that it lifts out of the socket, doing anything behind the pin to keep it in place could also make it grip even tighter. That argues for installing a socket saver or (shudder) replacing the socket.

Arden, in your post you specifically suggested GC De-oxid. Do you prefer that over Caig's Deox-It?

73, Avery W3AVE in Potomac, Md.

At 12:22 PM 11/7/01 -0500, you wrote:

>3rd: Insert a piece of wire and place a blob of solder on the pin-lug, on  
>the rear of the socket to act as a stop.

>

>73 bill

>

>

>

>At 11:11 AM 11/7/2001, you wrote:

>>Okay...but now for something completely different: a socket that grips  
>>too tightly rather than not at all. One pin of the octal socket in my RCA  
>>WT-110A (it's like a Cardmatic but mechanically much less complicated)  
>>grabs so hard that when I unplug a tube that the socket pin lifts part  
>>way out of the socket! If I don't do anything, I'm sure that one of these  
>>days one or more of the wires attached to the pin will come off.

>>

>>I've gotten two suggestions from guys who spend lots of time rehabbing  
>>and selling Hickoks and other quality tube testers: 1) degrease the  
>>socket pin and put a bit of epoxy cement between the pin and the body of  
>>the socket (taking care not to get any inside) to anchor it in place; or  
>>2) use a socket saver. Needless to say, another option is to replace the  
>>socket. One of my advisers says I do NOT want to do that. Too damn many  
>>wires. He goes for the socket saver.

>>

>>Other views? Arden?

>>

>>(Eric: I too have a 752A, and the illogical chart order bugs me, too.  
>>When you're running a bunch of 6V tubes. it sure is easier to arrange  
>>them alphabetically and go down on the left and up on the right as  
>>testing proceeds.)

>>

>>73, Avery W3AVE in Potomac, Md.

>>

>>

>>At 09:52 AM 11/7/01 -0600, you wrote:

>>>de N4TGC Eric

>>>  
>>>Scott, et al: Arden has the right of it - I still have the EICO 667 my  
>>>father bought new in Sept '71, and have yet to replace a socket, because: I  
>>>THOROUGHLY clean and straighten the tube pins before insertion, and  
>>>regularly clean/lubricate the tester sockets in use - generally, once per  
>>>session of ten or more tubes.  
>>>  
>>>I retired the EICO about 6 months ago when I acquired a Hickok 752A. It  
>>>had both an octal and 7-pin "socket saver" installed. I had to remove the  
>>>7-pin one, as it interfered with inserting a tube into the large 5-pin  
>>>socket adjacent to it. Interestingly, the 7-pin socket under it was still  
>>>very tight. The bad part is, the "savers" are held on with a screw and  
>>>nut, which precludes easy removal and replacement (the nut now rests  
>>>inside, to be extracted at my leisure ...)  
>>>  
>>>Pet peeve of the 752A: the right half of the roll chart is "upside down"!  
>>>The EICO chart arranges the order so that once you've gone DOWN the left  
>>>side, the numbers continue UP the right. Wonder what possessed Hickok to  
>>>do it "wrong"?! Basically, it means I have to group the tubes in other  
>>>than numerical order ...  
>>>  
>>>I have had occasion to replace a tube socket in some tester, tho I don't  
>>>remember which one it was - come to think of it, the defunct Simpson 335  
>>>(anyone have a manual?!) here has a bad 4-pin one. IMO, if you can't  
>>>handle replacing a tube tester socket, you shouldn't be working on radios!  
>>>The trap inherent in trying to re-shape the connectors on a bad one is, you  
>>>can never be sure that the tube that checks bad really is bad, or just  
>>>isn't making up - and you'll quickly tire of wiggling them! e

--=====64726561==\_.ALT  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

```
* * * * *
*      ---REMAINDER OF MESSAGE TRUNCATED---      *
*      This post contains a forbidden message format      *
*      (such as an attached file, a v-card, HTML formatting) *
*      Mail Lists at theporch.com only accept PLAIN TEXT      *
*      If your postings display this message your mail program *
*      is not set to send PLAIN TEXT ONLY and needs adjusting *
* * * * *
```

--=====64726561==\_.ALT--

-----  
From: "Tom Smith" <tsmith@hal-pc.org>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: T-368-C FOR SALE

Date: Thu, 8 Nov 2001 20:04:26 -0600  
Message-ID: <MBBBKKMLEGLCKDIFCOPKGEDCCBAA.tsmith@hal-pc.org>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

I have for sale, in the northeast Texas or northwest Louisiana area, a T-368-C transmitter with some spares and a original manual. All original including paint except some reversable "Electric Radio" audio mods. Works very well with full output. Prefer pickup but can be delivered to the Houston area. A T-368 exciter and other parts are also available. Asking \$1200 or best offer for the transmitter.

Can be viewed at:  
[www.hal-pc.org/~tsmith/t368\\_1.jpg](http://www.hal-pc.org/~tsmith/t368_1.jpg)  
281-417-5959 cell mostly days  
281-364-1172 wrk between 8:00am-5:00pm cst

Thanks,  
Tom N5AMA

-----  
Date: Thu, 08 Nov 2001 18:34:01 -0800  
From: Arden Allen <gumbear@pacbell.net>  
Subject: Re: Hickok tube tester sockets question  
To: Old Tube Radios <boatanchors@theporch.com>  
Cc: boatanchors@theporch.com  
Message-id: <0GMI00HZ4IFAUK@mta5.snfc21.pbi.net>  
MIME-version: 1.0  
Content-type: text/plain; charset=ISO-8859-1  
Content-transfer-encoding: 7bit

Hi Avery;

> Arden, in your post you specifically suggested GC De-oxid. Do you prefer  
> that over Caig's Deox-It?

I think either one of them is appropriate for the job. There are two reasons I mention De-Ox-Id. First, it's less expensive. Caig seems to want to price itself out of the market. The local electronics boutique here quit carrying Caig products because customers preferred the lower priced competitive items. Secondly, I hate spraying contact cleaner all over the place. I like GC's bottles. They fit neatly in my tool hutch and are easy to work with. I even put WD40 in the empties!

Arden Allen KB6NAX Vallejo, CA [gumbear@pacbell.net](mailto:gumbear@pacbell.net)

-----  
Message-ID: <3BEB523F.853A4984@qwest.net>  
Date: Thu, 08 Nov 2001 20:49:19 -0700  
From: James Hanlon <knjhanlon@qwest.net>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: Heathkit GR-54 Voltage Listing  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Al,

Unfortunately, I don't have a listing of the voltages for a GR-54, but I do have a suggestion. The RCA Receiving Tube Manuals list typical operating conditions for just about every tube you are likely to run across. Get ahold of a Manual and look up the tubes in your GR-54. Then check the voltages listed there against what you find in your set. That should give you a pretty good idea of whether you are in the right ball park.

By the way, this helped me last weekend when I was checking out the 6DC6 RF stage that a previous owner had installed in my 75A3. I was measuring about 12.5 volts from cathode to ground, and the Manual shows the tube to be in cutoff with more than 10 volts bias on the control grid, so the tube wound up being far into cutoff. Looking around a little, I found that the ground lug on the lead from the cathode was not making good contact to the chassis. The screw holding it had its head sheared off!

Good luck,

Jim, W8KGI

-----  
From: Henry van Cleef <vancleef@eskimo.com>  
Message-Id: <200111090531.VAA04382@eskimo.com>  
Subject: Re: Heathkit GR-54 Voltage Listing  
To: Old Tube Radios <boatanchors@theporch.com>  
Date: Thu, 8 Nov 2001 22:31:29 -0700 (MST)  
Cc: boatanchors@theporch.com  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

The esteemed Hubbard, Al has said:

>

> I have a Heathkit GR-54 short wave receiver that can't hear. I'm  
> following the guidelines in that excellent series of articles on

> repairing receivers that appeared in Electric Radio magazine. I have  
> the operating manual which covers alignment (not my current problem) but  
> for whatever reason, there is no listing of voltage readings at each of  
> the tube sockets. Can anybody help me with such a listing?

>

I'm not familiar with this set, and don't know what tubes it uses.  
However, there's a fairly quick way to figure out what they ought to  
be.

The various tube manuals give typical operating points for tubes. A  
set that has low gain across all bands, with the coils peaked up  
points to either a low screen voltage somewhere, or a high initial  
bias value on an RF/IF cathode. A very standard set of values for  
6SK7, 6SA7, 6BE6 has 100 volts on the screens, 3 volts on the cathode.  
The 6BA6 with 100 volts wants closer to 1 volt on the cathode (15 ma.,  
68 ohms). Low screen voltage is typically a leaky screen bypass  
capacitor or a drifted resistor. A high initial bias at the cathode  
will drop transconductance on the long-cutoff tubes, and make the set  
quite insensitive. Use a scope to check for good bypassing at the  
screens and cathodes---there should not be a lot of IF or local  
oscillator signal on these. Unless you are working with an AC/DC set  
with roughly 100 volts on the plates, use the values for 180/250  
typical operating parameters. The plate and screen currents given,  
plus a little Ohm's Law work, will give you the anticipated voltage.  
A little ohmmeter work will tell you if screen or cathode circuit  
resistors have drifted high (common problem). Check the AVC  
voltage---it should be relatively low with no signal, and (on most  
sets) go up to around 9 volts on a strong signal. Use an 11 meg VTVM  
to prevent loading the AVC.

In most cases, you'll find that the designers selected the published  
typical values for the design. The one manufacturer who comes to mind  
as a "roll your own" is National, where they used 70 volts on screens  
rather than 100. However, keep in mind the ratio between screen and  
plate current is essentially constant, so using the calculated screen  
current, you can calculate the approximate cathode current and,  
knowing the cathode resistor value, obtain the design cathode bias  
voltage.

I generally prefer to calculate expected voltages from reviewing the  
design, rather than using published charts, as I have seen enough  
errors in the charts to get my attention. And, with a quick review of  
the design, it tends (at least to me) to be a bit more obvious if a  
deviation from the expected voltage is significant in terms of effect  
on performance.

Hank

--

Hank van Cleef  
1986 420SEL

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From: W5USM@aol.com  
Message-ID: <171.3a15dea.291d0f24@aol.com>  
Date: Fri, 9 Nov 2001 05:51:16 EST  
Subject: Attention "Super Wasp" Fans  
To: Old Tube Radios <boatanchors@theporch.com>  
MIME-Version: 1.0  
Content-Type: multipart/alternative;  
boundary="part1\_171.3a15dea.291d0f24\_boundary"

--part1\_171.3a15dea.291d0f24\_boundary  
Content-Type: text/plain; charset="US-ASCII"  
Content-Transfer-Encoding: 7bit

I am in need of two genuine Pilot binding post screw terminals and a set of antenna coils.

Are they out there somewhere? Thank you.

73 from Bill Smith, W5USM  
Shortwave Radio Since 1950

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Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

\* \* \* \* \*  
\* ---REMAINDER OF MESSAGE TRUNCATED--- \*  
\* This post contains a forbidden message format \*  
\* (such as an attached file, a v-card, HTML formatting) \*  
\* Mail Lists at theporch.com only accept PLAIN TEXT \*  
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\* is not set to send PLAIN TEXT ONLY and needs adjusting \*  
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Message-Id: <4.3.2.7.2.200111109065634.00de07d0@mail.sover.net>  
Date: Fri, 09 Nov 2001 06:59:07 -0500  
To: Old Tube Radios <boatanchors@theporch.com>  
From: Michael Crestohl <mc@sover.net>  
Subject: FS: HP-401C VTVM



Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"; format=flowed

Hi Gang:

I have a very clean late model HP-410C VTVM with the standard probes for sale. Unfortunately I do not have the correct RF Probe that goes with it. I do have the probe from the 410-B but it does not have the diode tube in it. This probe can be rewired for the 401-C. These do however show up periodically online or on ePay. I am asking \$100.00 plus shipping for it. If interested please reply by e-mail.

73 all,

Michael

PS: A list reader e-mailed me that he has the diode tube, new in the box for \$40.00!

-----  
From: W5USM@aol.com  
Message-ID: <29.1d71b6bc.291d4566@aol.com>  
Date: Fri, 9 Nov 2001 09:42:46 EST  
Subject: HTML Defeat Test~DISREGARD  
To: Old Tube Radios <boatanchors@theporch.com>  
MIME-Version: 1.0  
Content-Type: multipart/alternative;  
boundary="part1\_29.1d71b6bc.291d4566\_boundary"

--part1\_29.1d71b6bc.291d4566\_boundary  
Content-Type: text/plain; charset="US-ASCII"  
Content-Transfer-Encoding: 7bit

This is a test on AOL 7 to defeat HTML e-mail.

Please disregard if you looked at this; I didn't mean for you to waste your time.

Thank you.

73 from Bill Smith, W5USM  
Shortwave Radio Since 1950

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Content-Type: text/plain; charset=us-ascii  
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End of BOATANCHORS Digest 3250

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